

COMMUNICATION SYSTEM WITH MULTICARRIER  
TELEPHONY TRANSPORT

10

ABSTRACT

A communications system for transferring digital data over a distribution network is described. The communications system includes an interface for receiving successive strings of digital data from a source, each string representing a certain number of bits and a symbol mapper for converting the strings into a sequence of symbols representing a constellation of discrete values of the amplitude and phase of a carrier for a predetermined period. The adjacent ones of the amplitude and phase values generally represent data strings having at least as few differences among the bits of their corresponding strings as do nonadjacent ones of the amplitude and phase values. The system further includes a modulator for synthesizing at least one carrier from said symbols, and a transmitter for sending the modulated carrier over a distribution network.